

WHAT IS CLAIMED IS:

1. A tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising:
  - a first generation device which generates a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto the groove track;
  - a second generation device which generates a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam; and
  - a calculation device which calculates an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.
2. The tracking servo control device according to claim 1, wherein the calculation device calculates the offset value so that a difference between the amplitude value of the first regenerative signal and the amplitude value of the second regenerative signal is minimized.
3. The tracking servo control device according to claim 1 or 2, wherein the calculation device calculates the offset value so that a difference between the lower peak value of

the first regenerative signal and the lower peak value of the second regenerative signal is minimized.

4. The tracking servo control device according to any one of claims 1 to 3, wherein the calculation device calculates  
5 the offset value so that a difference between the upper peak value of the first regenerative signal and the upper peak value of the second regenerative signal is minimized.

5. The tracking servo control device according to any one  
10 of claims 1 to 4, wherein the calculation device calculates the offset value so that the sum of an error count of information obtained from the first regenerative signal and an error count of information obtained from the second regenerative signal is minimized.

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6. A tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising:

20 a first generation device which generates a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a radiation range of the light beam onto the groove track;

25 a second generation device which generates a second regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent

to the information pit in another direction is formed within the radiation range of the light beam; and

a calculation device which calculates an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.

7. The tracking servo control device according to claim 6, wherein the calculation device calculates the offset value so that a difference between the amplitude value of the first regenerative signal and the amplitude value of the second regenerative signal is minimized.

8. The tracking servo control device according to claim 6 or 7, further comprising a third generation device for generating a third regenerative signal based on a reflected light from the recording medium for the light beam when the pre-pit is formed outside the radiation range of the light beam, wherein the control device calculates the offset value so that a difference between the upper peak value of the third regenerative signal and an average value of the upper peak value of the first regenerative signal and the upper peak value of the second regenerative signal is minimized.

9. The tracking servo control device according to claim 6 or 7, further comprising a third generation device for generating a third regenerative signal based on a reflected light from the recording medium for the light beam when the

pre-pit is formed outside the radiation range of the light beam, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized.

10. The tracking servo control device according to claim 8, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized.

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11. The tracking servo control device according to any one of claims 6 to 10, wherein the calculation device calculates the offset value so that the sum of an error count of data obtained from the first regenerative signal and an error count of data obtained from the second regenerative signal is minimized.

12. The tracking servo control device according to any one of claims 1 to 11, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in a continuous area where the information pits are formed.

13. The tracking servo control device according to any one of claims 1 to 12, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in a linking area of the recording medium.

14. The tracking servo control device according to any one of claims 1 to 13, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in a preset area for adjusting the light quantity of the light beam.

15. The tracking servo control device according to any one of claims 1 to 14, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in one area of the recording medium where the information pits are formed, the information pits being subjected to an error detection/correction with an error detection/correction code.

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16. The tracking servo control device according to any one of claims 1 to 15, wherein the formation pattern of the information pit is constant.

25 17. The tracking servo control device according to any one of claims 1 to 16, wherein the information pit is employed for recording the information recorded with an error

detection/correction code, and the position of the information pit on the recording medium is specified by the error detection/correction code.

- 5 18. A tracking servo control method for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising:

10 a first generation step of generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto the groove track;

15 a second generation step of generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam; and

20 a calculation step of calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.

19. A tracking servo control method for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising:

a first generation step of generating a first regenerative signal based on a reflected light from the

recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a radiation range of the light beam onto the groove track;

5 a second generation step of generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit adjacent to the information pit in the other direction is formed within the radiation range of the light beam; and

10 a calculation step of calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.

20. A tracking servo control program for a tracking servo control device for making a tracking servo control to apply  
15 a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, the program makes a computer contained in the tracking servo control device function as:

20 a first generation device for generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto the groove track;

25 a second generation device for generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam; and

a calculation device for calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.

5 21. A tracking servo control program for a tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, the program makes a computer contained in the tracking servo control device  
10 function as:

a first generation device for generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a  
15 radiation range of the light beam onto the groove track;

a second generation device for generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit adjacent to the information pit in the other direction is formed within the radiation  
20 range of the light beam; and

a calculation device for calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated.

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